Who Holds Farm Operator Debt?

by James T. Ryan and Steven R. Koenig[1]

U.S. farm business debt rose 20 percent in the last 5 years, and totaled $170 billion on December 31, 1998. As subsectors of the farm economy appear to be entering a period of lower profitability, it is important to know how farm debt is distributed among farm operators and their creditors. This analysis examines the concentration of debt among farmers as reported in USDA's 1997 Agricultural Resource Management Survey. These data indicate that over half of all farm operators do not carry debt from year to year, so debt is concentrated among a small number of farms. Within the group of farms that do carry debt, total farm debt is heavily concentrated among large farms and farms with high leverages.

Total U.S. farm debt rose $32 billion from the start of the decade to $170 billion at the end of 1998. Growth of credit for nonreal estate purposes outpaced growth of real estate credit during this decade, and accounted for $21 billion of the rise in debt. While total farm debt burdens have grown quickly, they remain well below the record $194 billion reported in 1984.

Banks now supply 41 percent of all farm debt. Debt held by commercial banks has grown almost $25 billion during the decade--an increase of nearly 56 percent (figure B-1). The Farm Credit System (FCS), the second largest source of credit to farmers, experienced a more modest increase in its farm lending volume, while life insurance company lending remained unchanged and Farm Service Agency (FSA) direct lending volume fell by over half. Because of these trends, a larger share of farm debt is held by banks and the FCS than at any time in recent history. From 1990 to 1998, their combined market share of total farm debt rose from 59 percent to 67 percent. At the peak of farm debt in 1984, their market share was just 58 percent.

This analysis explores the distribution of farm debt among different classes of operators and their creditors. Given the recent rise in farm debt, and prospects that farm income will fall below the levels attained in 1996 and 1997, some deterioration in loan quality is expected to occur in 1999. Data collected in USDA's 1997 Agricultural Resource Management Survey (ARMS) are used to examine farm operator debt burdens at the start of 1998. This analysis applies only to farm operators, and excludes debt owed by contractors and nonoperator landlords. Farm business debt in the USDA farm sector accounts stood at $165 billion at the end of 1997, while farm operators reported $108 billion in the 1997 ARMS. This research applies to that portion of farm debt that is owed by farm operators. Particular attention is focused on the farm loan portfolios of two of the largest groups of farm lenders--commercial banks and the FCS.

Many Operators Owe No Debt

Many farms either do not borrow regularly or repay their loans by yearend. Typically, fewer than half of all farms carries loan balances from one year to the next. ARMS data indicate that only 45 percent of all farm operators reported any outstanding farm debt to a lender at yearend 1997.

For farms carrying loan balances from year to year, credit use varies by the size of the farm operation. Large farms are more likely to owe debt. Nearly 80 percent of farms with at least $250,000 in gross cash incomes reported debt balances at yearend. Only 34 percent of nonfamily operations and 42 percent of small farms (those with less than $250,000 in sales) had debt at yearend. Within the small farm group, only 18 percent of farms with a retired operator owed any debt. About 40 percent of all farm operators report a primary occupation other than farming. While fewer than 44 percent of these operators report outstanding debt at yearend, these "residential/lifestyle" farms generally meet debt service requirements from nonfarm income. Farms reporting no debt balances tend to be small in size, with gross cash farm incomes averaging just $50,000.

Most Farms Rely on a Primary Lender

Most farms have the majority of their credit needs provided by a single lender or related group of lenders--referred to here as their primary lender. Only about 2 percent of farms with debt do not have a primary lender (table B-1). Commercial banks are the most common primary lender for indebted farm operators. At the end of 1997, banks were the primary lender for 54 percent of all indebted farm operators. The FCS is the primary source of credit for 17 percent of indebted farm operators. The Farm Service Agency and other lenders are primary lenders for a much smaller share of farms reporting debt. With banks and the FCS serving as primary lenders for 71 percent of all farm operators, the policies of these lenders toward their farm customers are very important to overall credit delivery to the sector.

Over 21 percent of all farm debt was owed to the nontraditional lenders included in the individuals and others classification. This group consists of farmland sellers, merchants, dealers, input suppliers, cooperatives, contractors, and others for whom the provision of credit is incidental to the primary transaction. Nonreal estate financing activities of these nontraditional lenders has

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Table B-1—Distribution of debt by a borrower's primary lender, December 31, 1997 1/

	Farm Credit System	Banks	Farm Service Agency	Individuals and others	No primary lender	All indebted farms 2/
			Percent			
Share of indebted borrowers borrowing primarily from:	17.3	54.1	5.6	21.1	1.5	100.0
Share of borrower debt owed to lender:						
Farm Credit System	88.7	2.0	3.4	2.6	19.6	21.3
Commercial banks	5.6	90.5	7.6	7.6	29.3	47.2
Farm Service Agency	1.0	1.0	84.9	1.1	9.5	5.9
Individuals and others	3.7	4.9	3.4	87.9	17.2	21.3
Unspecified lender	1.0	0.9	0.7	0.7	15.0	1.5
All lenders 2/	100.0	100.0	100.0	100.0	100.0	100.0

1/ A lender is considered to be the primary lender if more than 50 percent of the borrower's debt is owed to that lender group. 2/ Due to small sample size, data for operations reporting life insurance companies as primary lender are not shown separately, but are included in total.

Source: 1997 Agricultural Resource Management Study, Economic Research Service, USDA.

Table B-2—Selected financial measures of indebted farms, by debt-to-asset ratio, 1997

	All indebted farms	Debt-to-asset ratio: Less than 0.4	0.4 to 0.70	More than 0.70
Number of indebted farms	911,522	719,715	139,298	52,509
Percent of indebted farms	100.0	79.0	15.3	5.8
Percent of farm debt	100.0	57.5	30.5	12.0
		Percent		
Share of the total debt owed to:				
Farm Credit System	100.0	66.6	25.5	7.9
Commercial banks	100.0	58.3	29.6	12.1
Farm Service Agency	100.0	42.2	40.3	17.6
Individuals and others	100.0	55.3	32.7	12.0
All lenders	100.0	57.5	30.5	12.0
Average:				
debt/asset ratio	22.4	15.3	50.9	95.6
Term debt coverage ratio 1/	2.4	3.1	1.4	1.2
		Dollars		
Financial measures of borrowers (averages):				
Total assets	528,409	560,864	462,560	258,291
Total lender debt	118,159	86,032	235,560	247,006
Net worth	410,250	474,832	227,000	11,285
Gross cash income	119,674	113,042	146,725	139,511
Net farm income	21,032	23,354	13,774	8,546
Debt per farm:				
Farm Credit System	25,189	21,237	42,057	34,599
Commercial banks	55,789	41,191	107,996	117,341
Farm Service Agency	7,017	3,748	18,483	21,408
Individuals and others	25,107	17,592	53,739	52,141
All lenders 2/	118,159	86,032	235,560	247,006

1/ Term debt coverage ratio = (Net farm income + nonfarm income + depreciation + interest on term debt + interest on capital leases - total income tax expense - family living expense) / (Scheduled principal and interest payments on term debt + scheduled principal and interest payments on capital leases). 2/ Due to small sample size, debt to life insurance companies is not shown separately but is included in the total.

Source: 1997 Agricultural Resource Management Study, Economic Research Service, USDA.

increased in recent years, driven mainly by favorable credit terms offered by machinery manufacturers and input suppliers. Supplier financing may have originated as a means of increasing sales, but corporate divisions providing credit services have developed into important profit centers for the parent organizations. Anecdotal evidence suggests that these units are expanding the range of products offered, as they attempt to become more complete providers of farmers' total needs for operating credit.

Most debt owed by borrowers is owed to their primary lender. For example, on average, 89 percent of the debt owed by a farm borrowing primarily from the FCS is supplied by the FCS. Borrowers for which the FSA is the primary lender received more significant shares of their credit from other sources, primarily commercial banks. Banks typically served as the leading secondary lender for operations reporting other credit sources as their primary lender.

Debt Is Concentrated in Highly Leveraged Farms

The majority of indebted farms did not carry high debt loads going into 1998. The average debt-to-asset ratio for all indebted farms was 0.22, and 79 percent of indebted farms had debt-to-asset ratios under 0.40. A ratio above 0.40 is considered to be an indicator of potential financial stress. Of the 21 percent of indebted farms with debt-to-asset ratios over .40, only 6 percent had ratios above 0.70 (table B-2). Including the 55 percent of farms that reported no debt at yearend 1997, over 90 percent of all farms had debt-to-asset ratios less than .40.

These numbers can be misleading from a lender's standpoint, since farms with higher debt-to-asset ratios owe much larger amounts of debt. On average, farms with ratios under 0.40 had $86,000 in total debt, while farms with ratios over 0.70 reported debt exceeding $247,000. Because of this weighting, 43 percent of total farm operator debt is owed by operations with debt-to-asset ratios over 0.40. Lenders are most concerned with the 12 percent of operator debt that is owed by highly leveraged farms, those with ratios over .70.

Should the farm economy enter an extended period of financial difficulty, part of the debt owed by operators with ratios over .70 is at a high risk of going into default. These highly leveraged farm operations had little solvency cushion, reporting average debt-to-asset ratios of 0.96. While debt is concentrated in these leveraged farms, it is not as concentrated as it was in the mid-1980's. Although not directly comparable to current data because of changes in data methodology, about a third of total farm debt at the end of 1985 was owed by farm operators with debt-to-asset ratios greater than .70 (USDA 1986).

Larger Farms Owe More Debt

Farm debt is concentrated in larger farm operations. While the average indebted farm operator owed $118,159 at the end of 1997, large farms with at least $500,000 in gross cash incomes owed an average of $571,563. Although these farms account for just 4 percent of all indebted farms, they owe over 19 percent of all farm operator debt (table B-3). Over a third of all farm operator debt is owed by the largest 11 percent of indebted farm operators. However, these large operations generate sufficient income to service their existing debt obligations, as evidenced by average term debt coverage ratios exceeding 3.5. Nevertheless, an abrupt worsening of the financial well-being of these large scale operators would disproportionately affect the credit quality reported by lenders.

While banks are the most common primary lender and have the greatest market share of total farm debt, their lending is spread among the broadest range of borrowers by type and size of operation. Life insurance companies serve the largest farm operations, while the FSA's direct lending programs tend to serve farms with $100,00 to $250,000 in gross cash incomes and limited-resource farmers.

ARMS data have consistently shown that FCS loans are more likely to go to larger farm operations (Koenig and Dodson). The average farmer borrowing primarily from the FCS reported a gross cash income of $172,617, while the average farmer borrowing primarily from banks had gross cash income of $107,943 (table B-4). FCS borrowers owed $144,000 in debt, while the average bank borrower owed $102,000. Because FCS credit is concentrated in fewer farm operations, the overall quality of its farm loan portfolio will be affected by the financial performance of fewer farm operations than that of the commercial banking industry. This suggests that the more highly concentrated FCS portfolio may carry higher relative risk than the more diversified farm debt portfolio of commercial banks.

FCS Borrowers More Financially Secure

While FCS debt is more concentrated in larger operations, its borrowers on average tend to be more financially secure than many other indebted farm operators. Indebted farms borrowing primarily from the FCS have higher net worth and somewhat lower leverage ratios than all indebted borrowers. Among the major lender categories, the average debt-to-asset ratio for FCS borrowers is among the lowest at 19.4 percent. FSA borrowers and those with no primary lender are the most leveraged, with average debt-to-asset ratios of 29 percent and 34 percent, respectively.

The FCS had the highest percentage of its debt (two-thirds) owed by lower risk borrowers with debt-to-asset ratios less than 0.40 (table B-2). In contrast, only 42 percent of FSA debt was owed by these lower risk producers. The FCS also had the least amount of its debt owed by farms with leverage ratios greater than 0.70.

Overall financial performance can be assessed by combining measures of solvency and income for individual farm operators. Farms considered vulnerable to failure are those reporting negative net farm incomes and debt-to-asset ratios greater than 0.40. By these criteria, nearly 10 percent of all indebted farms were considered vulnerable to failure at the end of 1997. FSA had the greatest percentage of its primary borrowers classified as vulnerable at 17 percent. FCS borrowers were least likely to be considered vulnerable and more likely to be in the favorable class.

Table B-3—Selected financial measures by typology of indebted operators, by farm sales volume, 1997

	Value of sales					
	Primary occupation farming					
	Under $100,000	$100,000 - $250,000	$250,000 - $500,000	Over $500,000	All others 1/	All indebted 2/
Number reporting debt	222,400	128,926	63,115	36,460	460,459	911,361
			Percent			
Share reporting debt	56.1	72.3	79.7	79.6	34.1	44.5
Distribution of total:						
Indebted borrowers	24.4	14.1	6.9	4.0	50.5	100.0
Debt	16.6	17.6	14.2	19.4	32.2	100.0
Share of total debt owed to:						
Farm Credit System	15.0	19.6	17.4	25.0	23.0	100.0
Commercial banks	16.7	17.4	14.4	19.4	32.2	100.0
Farm Service Agency 3/	29.1	29.9	11.1	8.6	21.3	100.0
Individuals and others	16.9	13.8	11.1	13.1	45.2	100.0
Unspecified lender	6.5	17.7	21.2	39.8	14.8	100.0
All lenders	16.6	17.6	14.2	19.4	32.3	100.0
Average debt-to-asset ratio	17.8	21.7	23.7	27.4	22.7	22.4
Term debt coverage ratio 4/	1.6	2.7	3.6	4.0	1.0	2.3
			Dollars			
Total assets	449,696	678,010	1,023,184	2,088,549	333,185	528,409
Total lender debt	80,153	146,886	242,773	571,563	75,491	118,159
Net worth	369,543	531,124	780,411	1,516,986	257,694	410,250
Gross cash farm income	48,543	161,256	331,713	1,011,534	42,704	119,674
Net farm income	6,300	31,536	75,484	213,897	2,472	21,032

1/ Includes nonfamily operations, limited resource, retirement, and residential/lifestyle farms. 2/ Due to small sample size, debt to life insurance companies is not shown separately but is included in the total. 3/ Includes program and nonprogram borrowers. 4/ Term debt coverage ratio = (Net farm income + nonfarm income + depreciation + interest on term debt + interest on capital leases - total income tax expense - family living expense) / (Scheduled principal and interest payments on term debt + scheduled principal and interest payments on capital leases).

Source: 1997 Agricultural Resource Management Study, Economic Research Service, USDA.

Table B-4—Selected financial measures, all indebted farms, by primary lender, 1997 1/

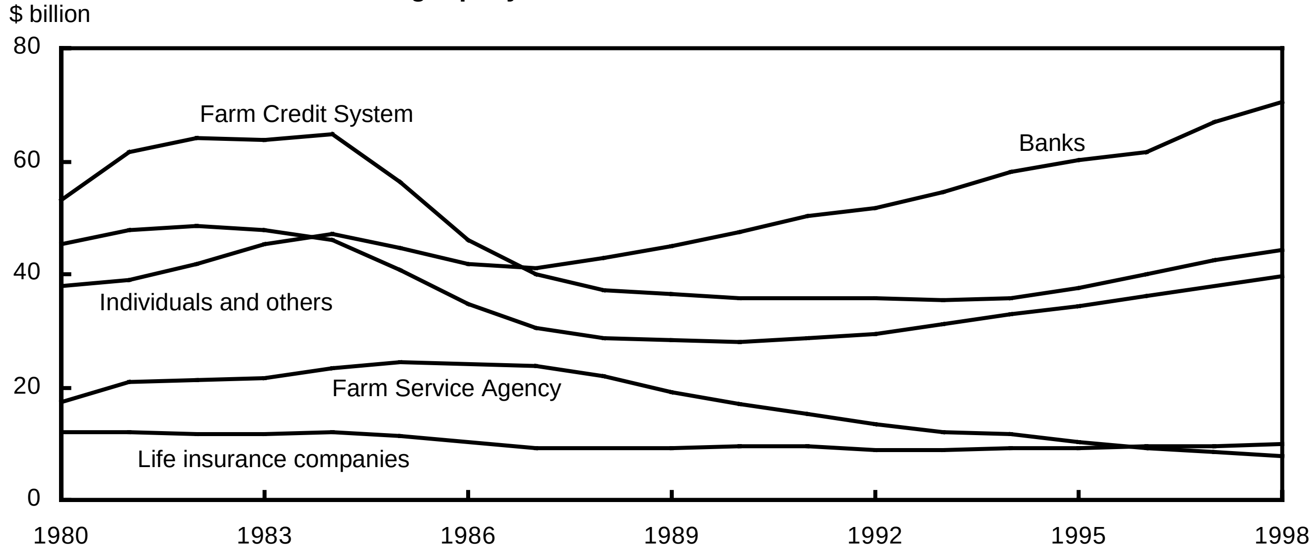
	Farm Credit System	Banks	Farm Service Agency	Individuals and others	No primary lender	All indebted farms 2/
			Dollars per farm			
Balance sheet:						
Total assets	744,435	453,906	408,571	507,859	1,082,326	528,409
Total lender debt	144,222	102,430	116,816	108,907	364,981	118,159
Net worth	600,213	350,476	291,755	398,952	717,345	410,250
Income statement:						
Gross cash income	172,617	107,943	89,518	96,512	294,627	119,674
Net farm income	31,366	19,453	18,196	16,652	27,219	21,032
			Percent			
Solvency:						
Debt-to-asset ratio	19.4	22.6	28.6	21.4	33.7	22.4
Repayment capacity:						
Term debt coverage ratio	2.6	2.6	2	2.1	1.6	2.4
Borrower financial performance:						
Favorable 3/	57.8	51.2	45.3	48.6	44.8	51.4
Marginal income 3/	27.5	30.8	20.9	33.8	27.1	30.3
Marginal solvency 3/	9.5	8.1	16.9	6.7	16.3	8.7
Vulnerable 3/	5.2	9.9	16.8	10.9	11.8	9.7

1/ A lender is considered to be the primary lender if more than 50 percent of the borrower's debt is owed to that lender group. 2/ Due to small sample size, data for operations reporting life insurance companies as primary lender are not shown separately, but are included in average for all indebted farms. 3/ Favorable performance is defined as net farm income greater than 0 and a debt-to-asset ratio less than or equal to .40; marginal income borrowers have net farm income less than or equal to 0 and a debt-to-asset ratio less than or equal to .40; marginal solvency means net farm income is greater than 0 and the debt-to-asset ratio is greater than .40; and for vulnerable net farm income is less than or equal to 0 and the debt-to-asset ratio is greater than .40.

Source: 1997 Agricultural Resource Management Study, Economic Research Service, USDA.

Figure B-1

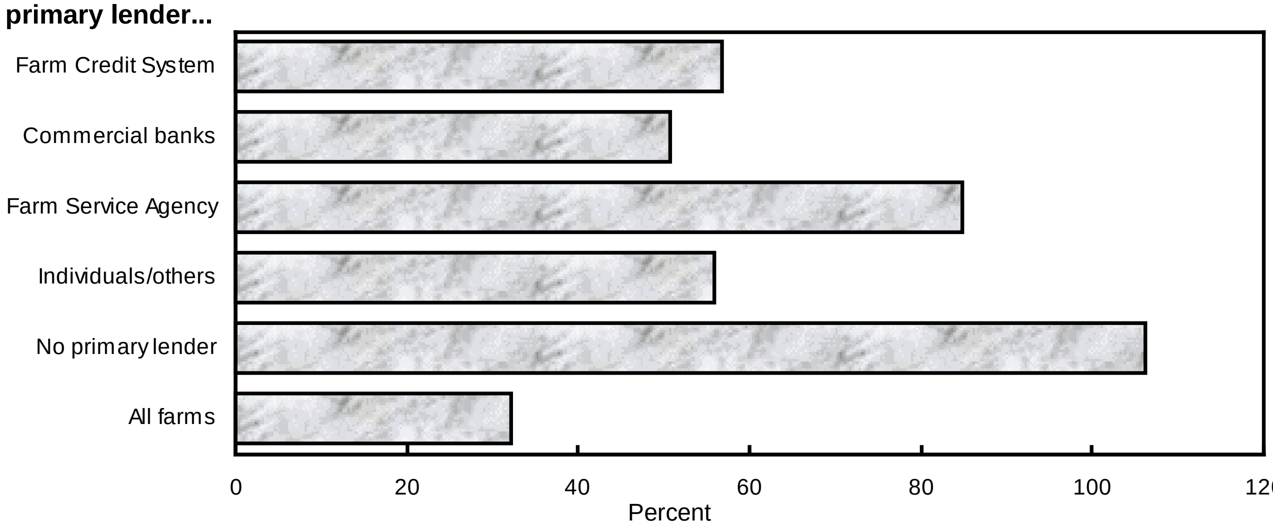
Banks' farm business debt rising rapidly



Source: Economic Research Service, USDA.

Figure B-2

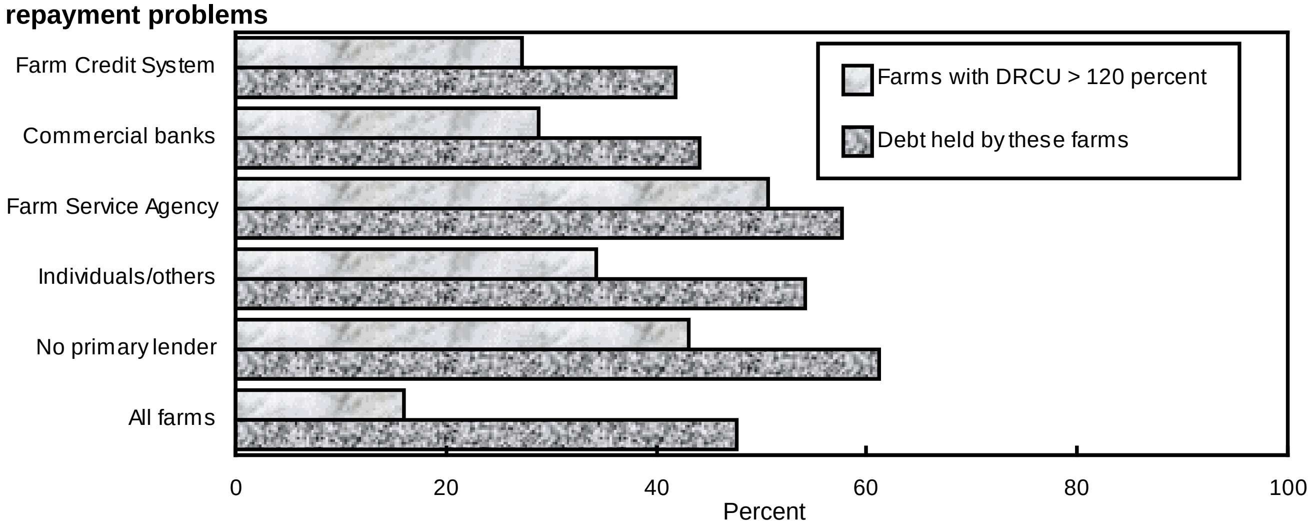
Debt repayment capacity utilization higher for Farm Service Agency borrowers, and those with no primary lender...



Source: 1997 Agricultural Resource Management Study, Economic Research Service, USDA.

Figure B-3

...and a significant share of each lender's debt is owed by farms with potential repayment problems



Source: 1997 Agricultural Resource Management Study, Economic Research Service, USDA.

Use of Debt Repayment Capacity Differs Among Lenders

Analysis of farmers' use of debt repayment capacity provides additional insight concerning the ability of indebted farm operators to service their current debt loads. Debt repayment capacity utilization (DRCU) for the farm sector, as presented previously in this publication, is expected to rise from 53 percent in 1997 to 61 percent in 1998 (also see Ryan). That measure is defined as the ratio of actual farm debt to the maximum feasible debt that could be supported by the current farm income of the sector. As described there, DRCU provides an historical overview of farmers' relative use of credit capacity from 1970 through the end of 1998.

Data collected in the 1997 ARMS provide for a more detailed analysis of DRCU, allowing the influence of off-farm income, family withdrawals (living expenses), and payment of estimated income taxes to be included in the calculation of income available for debt coverage. The maximum principal and interest payment that a farmer could make based on total household income, and the maximum loan that the payment could service, can be estimated more precisely for farmers borrowing from each primary lender. Comparison of actual total liabilities with maximum debt supportable by income from all sources gives a more comprehensive measure of each respondent's individual DRCU. This analysis does not include any nonfarm debt owed by the farm operator's household.

Including the contribution of off-farm income to farm debt service, DRCU averaged 56 percent for all indebted farms in 1997 (figure B-2). Operators identifying banks as their primary lender owed about 51 of the debt that they could service with current income from all sources, while DRCU for FSA borrowers approached 85 percent. FCS borrowers were using about 57 percent of available credit lines.

Farms can often meet temporary income shortfalls with savings and liquidation of assets. However, if DRCU exceeds 1.2, meaning that the operation owes 20 percent more debt than can be serviced with current income, savings and inventory liquidation may be insufficient to cover the shortfall, and this debt may be at risk of default. About 35 percent of the operations reporting debt outstanding at the end of 1997 had DRCU greater than 1.2, but these farms owed 48 percent of all debt (figure B-3). Over 50 percent of FSA borrowers were in this high debt group, and these farms reported 58 percent of all debt owed to FSA. About 29 percent of bank borrowers were in this group, accounting for 44 percent of debt owed to banks, while the 28 percent of FCS borrowers classified as high DRCU owed 42 percent of FCS debt.

Summary

The farm sector balance sheet shows a debt-to-asset ratio of 15 percent at the end of 1997, indicating that farmers were using a modest amount of leverage. However, when those 55 percent of farms that did not have any debt are excluded, the debt-to-asset ratio climbs to over 22 percent for indebted farms. Debt is concentrated in larger farms and more leveraged farms. The largest 11 percent of indebted farms, accounting for less than 5 percent of all farms, owe over a third of all farm debt. Many of these large farms with large debt burdens had favorable financial performance measures through the end of 1997. Yet, significant numbers could exhibit financial weakness in an environment of continuing low commodity prices. Of greatest concern is the 12 percent of farm debt owed by operations with debt-to-asset ratios exceeding .70. This high-risk group is most likely to default in the event of a downturn in farm economic conditions. Farm debt is also highly concentrated in certain lender groups. Commercial banks and the Farm Credit System are the primary creditors for 71 percent of farm operators. Borrowers of the FCS were found to be more financially secure than those of other identified lender groups.

References

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